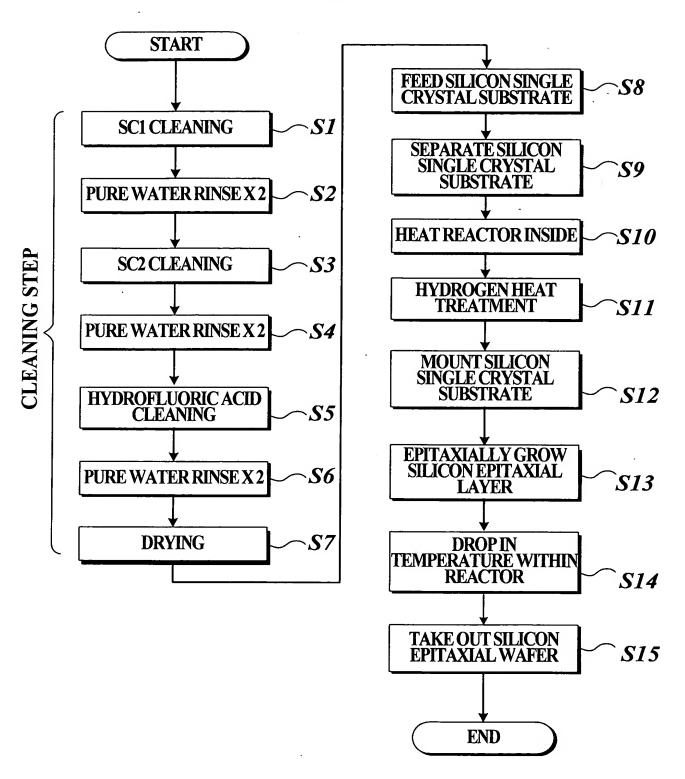
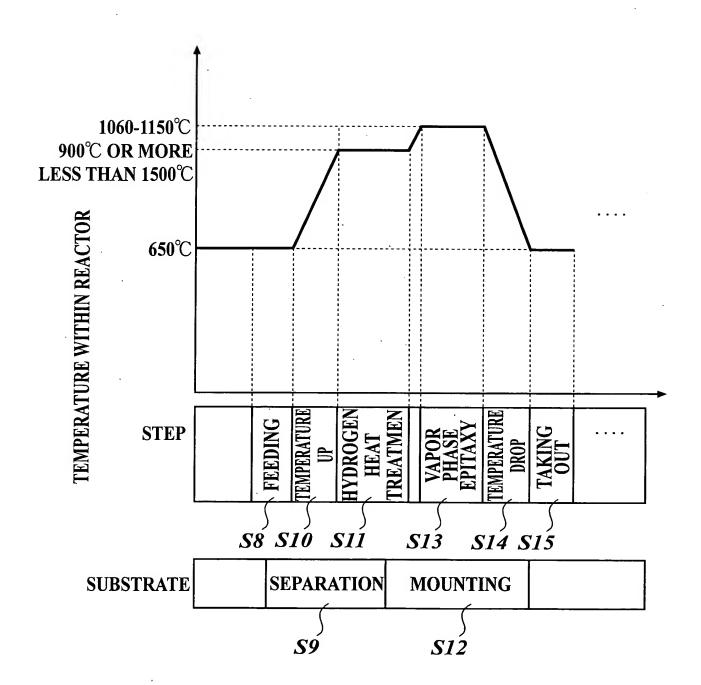
1/12 **FIG. 1**

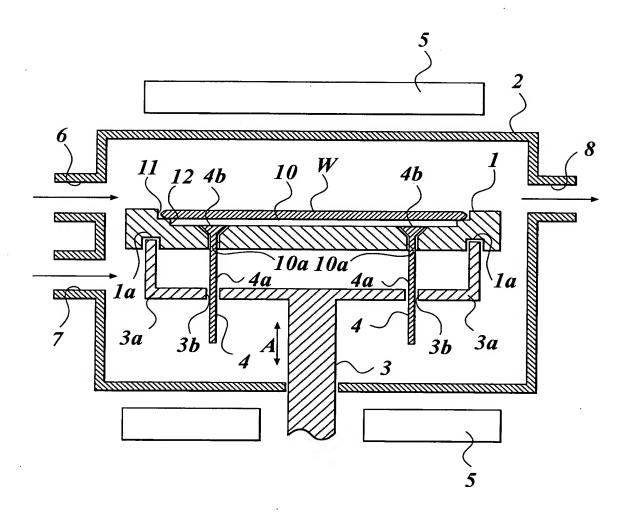


2/12 **F I G**. **2**



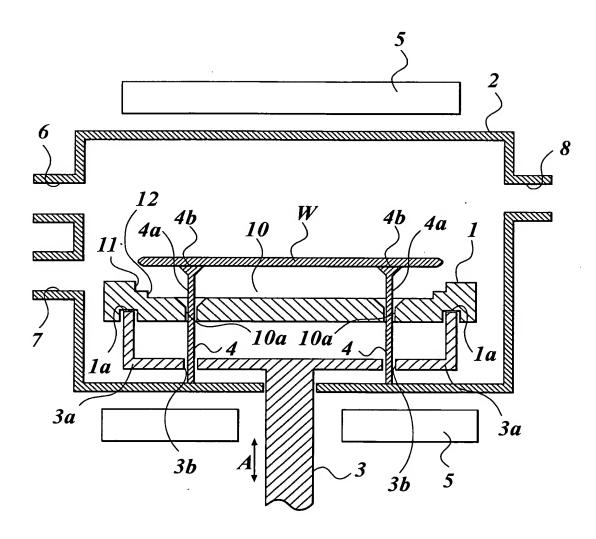
3/12 **FIG. 3**

<u> 100</u>



4/12 F I G. 4

<u> 100</u>



5/12 FIG. 5 **MAIN REAR** MAIN FRONT **SURFACE SURFACE START** cS106 FEED SILICON SINGLE S101 S201 **CRYSTAL SUBSTRATE SC1 CLEANING SC1 CLEANING** (S107 $\overline{S}102$ S202 SEPARATE SILICON SINGLE CRYSTAL **PURE WATER PURE WATER SUBSTRATE** RINSE RINSE (S108)**CLEANING STEP** -S103 *-S203* **HEAT REACTOR** INSIDE **OZONE WATER** HYDROFLUORIC **CLEANING** ACID CLEANING *(S109* S104 *-S204* HYDROGEN HEAT TREATMENT PURE WATER RINSE **PURE WATER RINSE S110 S105** MOUNT SILICON SINGLE CRYSTAL SPIN DRYING SUBSTRATE *-S111* **EPITAXIALLY GROW SILICON EPITAXIAL** LAYER S112 **DROP IN TEMPERATURE** WITHINREACTOR cS113 TAKE OUT SILICON EPITAXIAL WAFER

END

6/12 **FIG.6A**

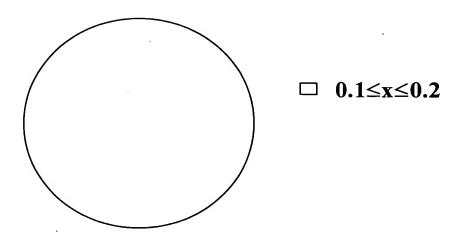
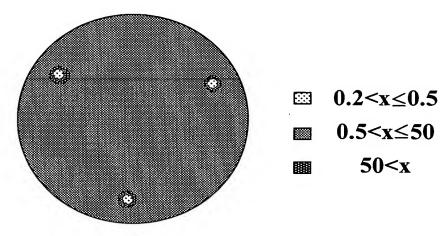
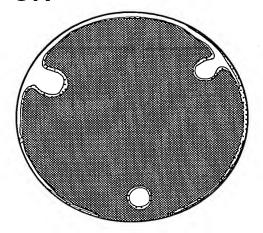


FIG. 6B



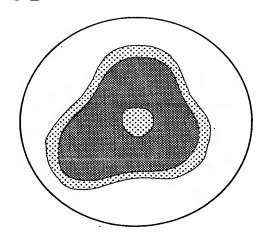
50<x

FIG. 8A



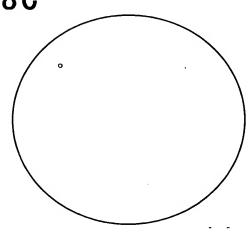
- \square 0.1 \leq x \leq 0.2
- **≅** 0.2<x≤0.5
- **■** 0.5<x≤50

FIG. 8B



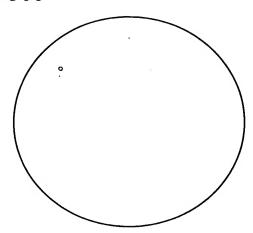
- \square 0.1 \leq x \leq 0.2
- \boxtimes 0.2<x \leq 0.5
- **■** 0.5<x≤50

FIG. 8C



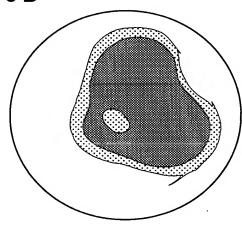
- \square 0.1 \leq x \leq 0.2
- **3 0.2 < x ≤ 0.5**

FIG. 10A



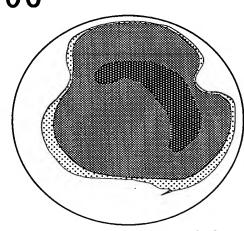
- \square 0.1 \leq x \leq 0.2
- **■** 0.2<x≤0.5

FIG. 10B



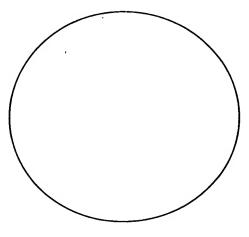
- \square 0.1 \leq x \leq 0.2
- \boxtimes 0.2<x \leq 0.5
- **■** 0.5<x≤50

FIG. 10C



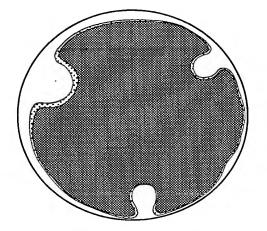
- \square 0.1 \leq x \leq 0.2
- $0.2 < x \le 0.5$
- $0.5 < x \le 50$
- 50<x

FIG. 11A



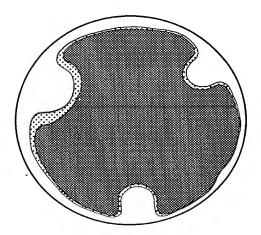
 \square 0.1 \leq x \leq 0.2

FIG. 11C



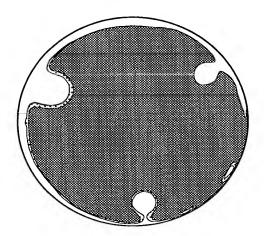
- \square 0.1 \leq x \leq 0.2
- $0.5 < x \le 50$

FIG. 11B



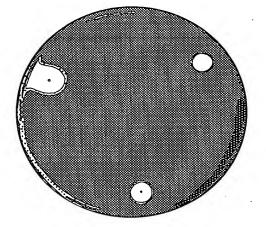
- \square 0.1 \leq x \leq 0.2
- \boxtimes 0.2<x \leq 0.5
- **■** 0.5<x≤50

FIG. 11D



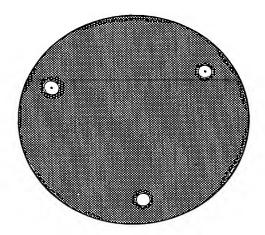
- \square 0.1 \leq x \leq 0.2
- **≅** 0.2<x≤0.5
- **■** 0.5<x≤50

FIG. 12A



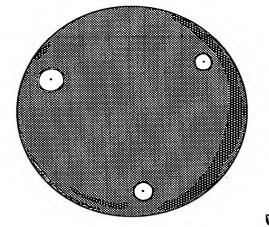
- \square 0.1 \leq x \leq 0.2
- **■** 0.5<x≤50
- 50<x

FIG. 12B



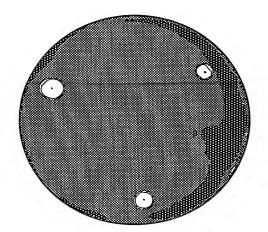
- \Box 0.1 \leq x \leq 0.2
- **3 0.2**<x≤0.5
- $0.5 < x \le 50$
- **50**<**x**

FIG. 12C



- \square 0.1 \leq x \leq 0.2
- **3** 0.2<x≤0.5
- 50<x

FIG. 12D



- \Box 0.1 \leq x \leq 0.2
- **3 0.2 < x ≤ 0.5**
- **■** 0.5<x≤50
- 50<x